

Europäisches Patentamt  
European Patent Office  
Office européen des brevets



(11) EP 0 718 786 A1

(12) **EUROPEAN PATENT APPLICATION**  
published in accordance with Art. 158(3) EPC

(43) Date of publication:  
26.06.1996 Bulletin 1996/26

(21) Application number: 95924532.5

(22) Date of filing: 10.07.1995

(51) Int. Cl.<sup>6</sup>: G06F 17/30

(86) International application number:  
PCT/JP95/01372

(87) International publication number:  
WO 96/02037 (25.01.1996 Gazette 1996/05)

(84) Designated Contracting States:  
DE FR GB

(30) Priority: 08.07.1994 JP 156864/94

(71) Applicant: SONY CORPORATION  
Tokyo 141 (JP)

(72) Inventor: KURIHARA, Akira  
Shinagawa-ku Tokyo 141 (JP)

(74) Representative: Cotter, Ivan John et al  
D. YOUNG & CO.  
21 New Fetter Lane  
London EC4A 1DA (GB)

(54) **INFORMATION SERVICE SYSTEM AND USER TERMINAL**

(57) An information providing system according to this invention comprises a center for providing information, and at least one user terminal connected to the center through a predetermined communication network and adapted for accepting offer of information from the center. The user terminal receives information transmitted from the center through the predetermined communication network to display the received information on a display and to store, as past record information, a portion of information received in the past. When user designates desired one of the stored past record information, the user terminal transmits, to the center, an instruction signal for instructing offer of information corresponding to desired past record information. The center receives the instruction signal transmitted from the user terminal to read out information corresponding to the received instruction signal from provided information memory means to transmit it to the user terminal. Thus, user can simply and immediately receive desired information from the center without repeating the operation for selecting item from the menu picture for specifying desired information required in the conventional system.

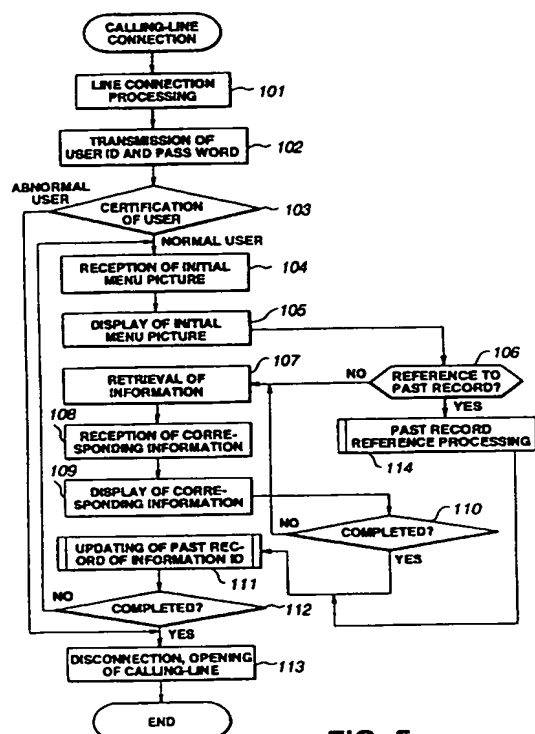


FIG. 5

EP 0 718 786 A1

### Best Mode for Carrying Out the Invention

A preferred embodiment of an information providing system and a user terminal according to this invention will now be described with reference to FIGS. 1 to 3. FIG. 1 is a block diagram showing the entire flow of information in the information providing system to which this invention is applied.

In FIG. 1, a center for providing information (hereinafter referred to as an information providing unit) 1 is a unit for allowing an information providing person (provider) to offer (provide) information to user, and is constituted as shown in FIG. 2, for example, in more practical sense. A user terminal equipment 2 is adapted to accept offer of information from the information providing unit 1, and is constituted as shown in FIG. 3, for example, in more practical sense. The information providing unit 1 and the user terminal equipment 2 are connected by way of a predetermined communication network 3, e.g., telephone line or ISDN, etc. so that information can be caused to undergo transmission in a bidirectional fashion.

In FIG. 2, a memory unit 11 stores information to be offered to user. A memory unit 12 stores management information of user such as charging information and/or telephone number, etc. every user.

An encipherment circuit 16 implements encipherment (cryptographic) processing to information sent out from the information providing unit 1 in accordance with the system, e.g., DES, FIEL, RSA, etc. A converter 17 converts the enciphered information into a predetermined signal suitable for transmission. A communication interface section 18 is an interface section with respect to the communication network 3.

Execution program for working the information providing unit 1 and management information for the memory unit 11 are stored in a ROM 15. A RAM 14 stores information indicating the present circumstances. A CPU 13 executes execution program. A system bus 19 consists of data bus, address bus and control bus, etc. for connecting respective circuits and/or units.

In FIG. 3, a memory unit 40 stores ID (address) of information received from the information providing unit 1. A decipherment circuit 35 implements decipherment (cryptoanalytic) processing to information sent out from the information providing unit 1. A communication interface section 36 is an interface section with respect to the communication network 3.

A RAM 33 stores temporary information of control program, etc. A ROM 34 stores therein execution program and management information for the user terminal equipment 2. A CPU 32 executes execution program.

A display circuit 38 implements signal processing to information from the information providing unit 1 so that it can be displayed on a display unit 39 such as television monitor, etc. An operation unit 37 is operated by user and serves to carry out an operation to select a desired item from information displayed on the display unit 39, or the like. A system bus 41 consists of data bus, address bus

and control bus, etc. for connecting respective circuits and/or units.

FIG. 4 shows a format of data in the case where information is transmitted from the information providing unit 1 to the user terminal equipment 2. As shown in this figure, information header indicating the leading portion of information is allocated to the leading portion, and information ID (identification) for identifying information is allocated succeeding (subsequently) thereto. Numbers are regularly assigned (allocated) to the information ID in accordance with classification of data.

As file information, data name (e.g., name of goods), preparation date of data, kind of data (e.g., shopping, video, etc.), classification of data (e.g., category such as clothes, foods, etc.), characteristic of data (e.g., information as to whether or not text information, graphic information or moving picture, etc. is included), and data quantity are allocated. This serves to facilitate retrieval from user. Namely, user suitably selects and designates predetermined information of preparation date of data, kind of data, classification of data, characteristic of data and data quantity, thereby making it possible to select desired information from large number of information.

Substantial information to be offered to user are allocated to the area succeeding (subsequent) to the file information. Information termination identifier indicating termination of information is allocated last.

Explanation will now be given with reference to the flowchart of FIG. 5 in connection with the operation in which, in the above-mentioned information providing system, user provides an access to the information providing unit 1 through the user terminal equipment 2 to retrieve desired information.

Initially, at step 101, user carries out line connection processing. Namely, when user operates the operation unit 37 of the user terminal equipment 2 shown in FIG. 3 to instruct access to the information providing unit 1, the CPU 32 controls the communication interface section 36 to allow it to execute the line connection processing. When command (instruction) from the CPU 32 is received, the communication interface section 36 reads out telephone number of the information providing unit 1 stored in advance in the memory unit 40 to start calling operation with respect to that telephone number. When the information providing unit 1 responds to this calling operation, the processing operation proceeds to step 102. Thus, the CPU 32 executes transmitting processing of user ID standardized by the ISDN. Namely, the CPU 32 uses user/user information within the call setting message to transmit user ID and pass word to the information providing unit 1 through the communication interface section 36.

When the information providing unit 1 receives the user ID through the communication interface section 18 shown in FIG. 2, it executes certification processing of user at step 103. Namely, the CPU 13 of the information providing unit 1 retrieves user management information in the memory unit 12 on the basis of the user ID and the

Thus, the processing of the step 207 is immediately executed.

In a manner as described above, the ID of information which have been accessed in the past and the number of receiving times thereof are suitably registered into the memory unit 40 as past record of information ID in correspondence with the directories.

After the past record updating processing of information ID is carried out in a manner as described above, the processing operation proceeds to step 112 of FIG. 5. Thus, whether or not completion of shopping is instructed is judged. In the case where completion (end) is not instructed, the processing operation returns to the step 104. As a result, the initial menu picture image is displayed. Thus, similar processing is repeatedly executed.

On the other hand, in the case where user completes access, he operates the operation unit 37 to instruct the CPU 32 to carry out completion of access. At this time, processing operation proceeds to step 113. Thus, the CPU 32 controls the communication interface section 36 to open connection with respect to the information providing unit 1 to complete the processing.

It is to be noted in the case where it is judged at the step 103 that current access is not access from normal user, the processing operation immediately proceeds to the step 113. Thus, disconnection/opening processing is executed.

In the case where, as described above, user carries out access to the information providing unit 1 to attempt to provide, for a second time, access to information which has been accessed in the past even for once, he selects the item of reference to past record in the initial menu picture display state shown in FIG. 6. At this time, the processing operation proceeds from the step 106 to step 114 of FIG. 5. Thus, the past record reference processing is executed. The detail of the past record reference processing is shown in the flowchart of FIG. 9.

Namely, when command (instruction) indicative of reference to past record is inputted from the operation unit 37, the CPU 32 of the user terminal equipment 2 executes display processing of past record information at step 301. Thus, past record (list) of data name corresponding to the information ID stored in the memory unit 40 is read out, and is displayed on the display unit 39 through the display circuit 38. At this time, the CPU 32 carries out a control, as shown in FIG. 10, for example, so that the directories registered by the processing shown in the flowchart of FIG. 7 are displayed in order of higher frequency of accessing (the number of receiving times). The directories D1 to D4 shown in FIG. 10 are registered in order of D1 to D4 as shown in FIG. 8. In this case, however, since the access frequencies subsequent thereto are adapted to be in order of D3, D2, D4, D1, directories are displayed in this order.

At step 201 of FIG. 7, in the case where user does not designate directory, past records are displayed every data name, kind of data, classification of data, charac-

teristic of data and data quantity which have been described as the file information of FIG. 4.

Then, the processing operation proceeds to step 302 of FIG. 9. Thus, user carries out designation of information. Namely, user operates the operation unit 37 to select directory to be accessed from now on in the state where directories to which information that user has accessed in the past belong are displayed on the display unit 39 as shown in FIG. 10, for example. When desired directory is selected, the CPU 32 reads out, from the memory unit 40, list of information (data name) belonging to that directory to allow the display unit 39 to display it thereon.

When user selects directory D3 in the state shown in FIG. 10, for example, information which belong to the directory D3 and have been accessed in the past are displayed as shown in FIG. 11. Also in this case, respective information are displayed in order of higher access frequency.

In the embodiment of FIG. 11, information B, C, A (data names) are displayed as information which belong to the directory D3 and have been accessed in the past. In this case, however, since the information B has the highest access frequency, and the information C and A have access frequencies lower than that of the information B in the recited order, information B, information C and information A are displayed in order as shown in FIG. 11. While these information are registered into the memory unit 40 in order of information A, information B and information C as order of registration, in the case where information (access) frequencies are the same, display is carried out from the latest information as shown in FIG. 12, for example.

User repeats similar operation at step 302 until information to be accessed from now on is displayed on the display unit 39. When designation of information is ultimately carried out, the processing operation proceeds to step 303. Thus, the CPU 32 retrieves information ID of the designated information from the memory unit 40. Namely, since past records of information ID of information accessed in the past are registered in the memory unit 40 at the step 207 of FIG. 7 as described above, the information ID of the designated information is retrieved therefrom. At step 304, this information ID is transmitted (sent out) to the information providing unit 1.

When the CPU 13 of the information providing unit 1 receives the information ID, it reads out information corresponding to the information ID from the memory unit 11 to transmit it to the user terminal equipment 2. The CPU 32 of the user terminal equipment 2 receives information transmitted from the information providing unit 1 at step 305, and allows the display unit 39 to display it thereon at step 306.

When any one of information which were accessed in the past is designated in this way, the operation for accepting offer of that information is automatically carried out. For this reason, user can immediately accept offer of desired information.

6. An information providing system as set forth in claim 5,

wherein the past record information is stored into a directory designated by user.

7. An information providing system as set forth in claim 6,

wherein the display means is adapted so that in the case where it displays the past record information on the display, it displays the past record information in an arranged manner in order of the number of receiving times.

8. A user terminal supplied with information from an information providing center comprising:

receiving means for receiving information transmitted from the information providing center through a predetermined communication network,

display means for displaying, on a display, information received by the receiving means,

past record memory means for storing, as past record information, a portion of information received in the past,

designating means for designating past record information that user desires of the past record information stored in the past record memory means, and

first transmitting means for transmitting, to the center, an instruction signal for instructing offer of information corresponding to the desired past record information.

9. A user terminal as set forth in claim 8, wherein the past record information includes information ID included in the received information and the receiving number of times of the received information,

the information ID and the receiving number of times being caused to correspond to each other.

10. A user terminal as set forth in claim 9, which further comprises past record updating means for updating the information ID and the number of receiving times included in the past record information.

11. A user terminal as set forth in claim 10, wherein the past record updating means comprises:

means for judging whether or not the information ID has been already registered in the past record memory means, and

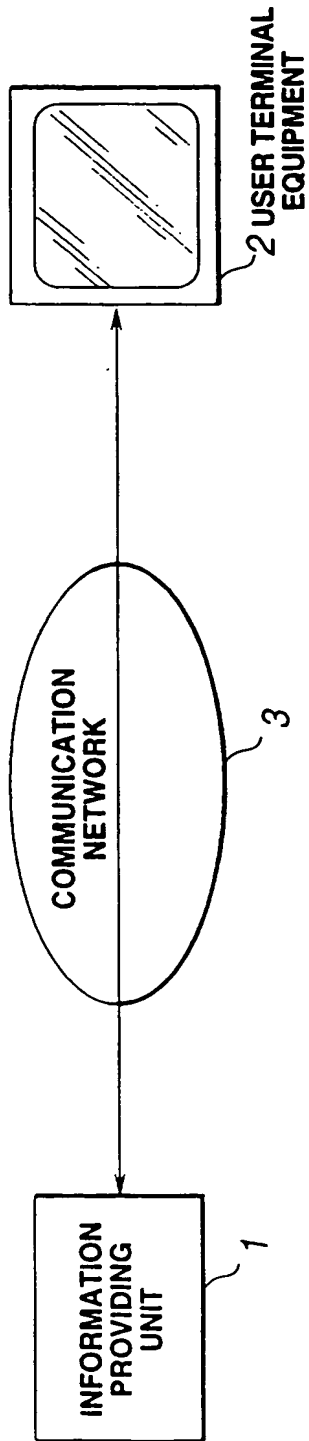
means such that in the case where it is judged that the information ID has been already registered, it increments the number of receiving times.

12. A user terminal as set forth in claim 11, wherein the past record updating means further comprises:

means such that in the case where the information ID is not registered in the past record memory means, it newly registers the information ID and the number of receiving times of 1 into any area of the past record memory means designated by user.

13. A user terminal as set forth in claim 12, wherein the past record information is stored in a directory designated by user.

14. A user terminal as set forth in claim 13, wherein the display means is adapted so that in the case where it displays the past record information on the display, it displays the past record information in an arranged manner in order of the number of receiving times.



(ON LINE SHOPPING SYSTEM)

**FIG.1**

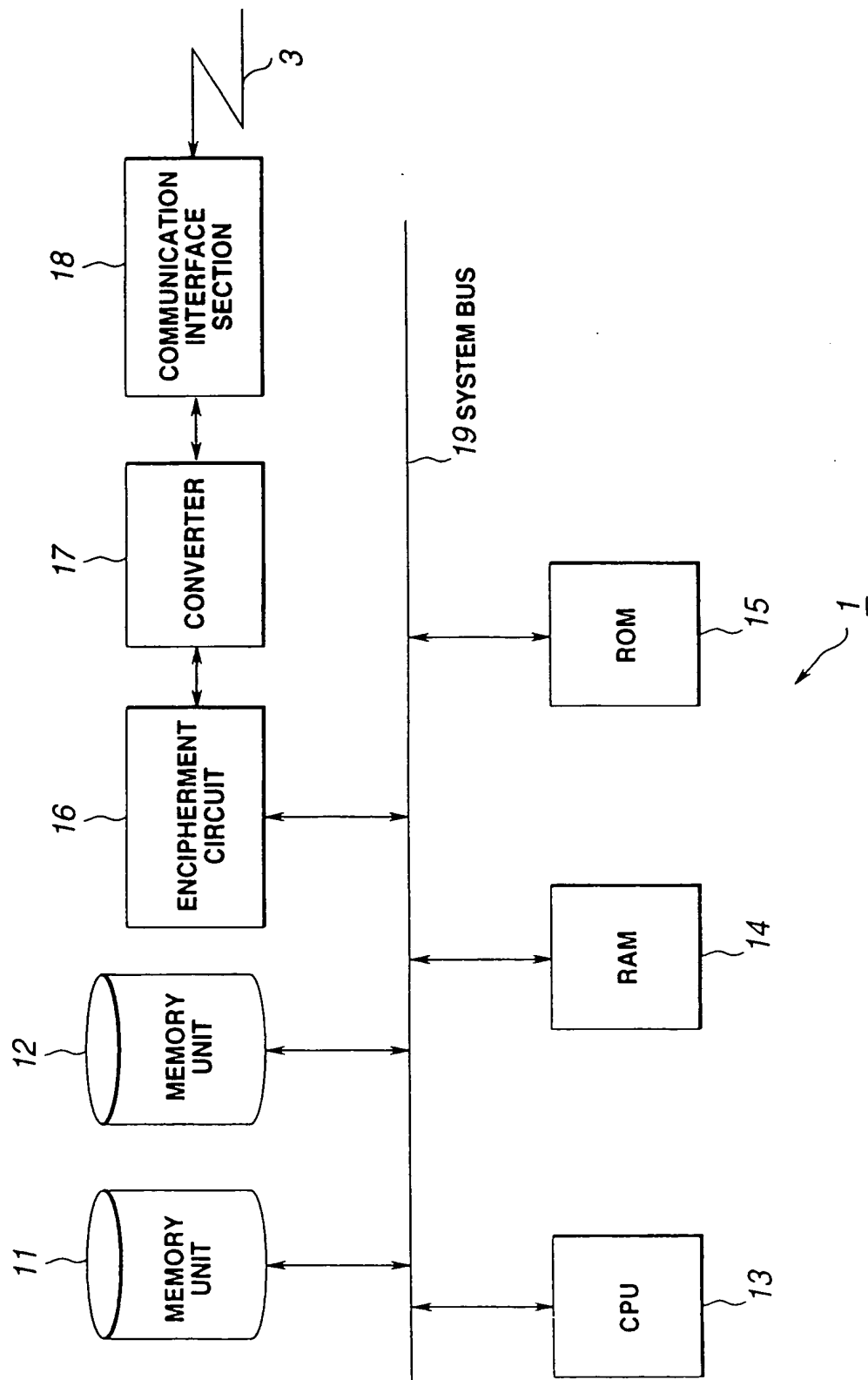


FIG. 2

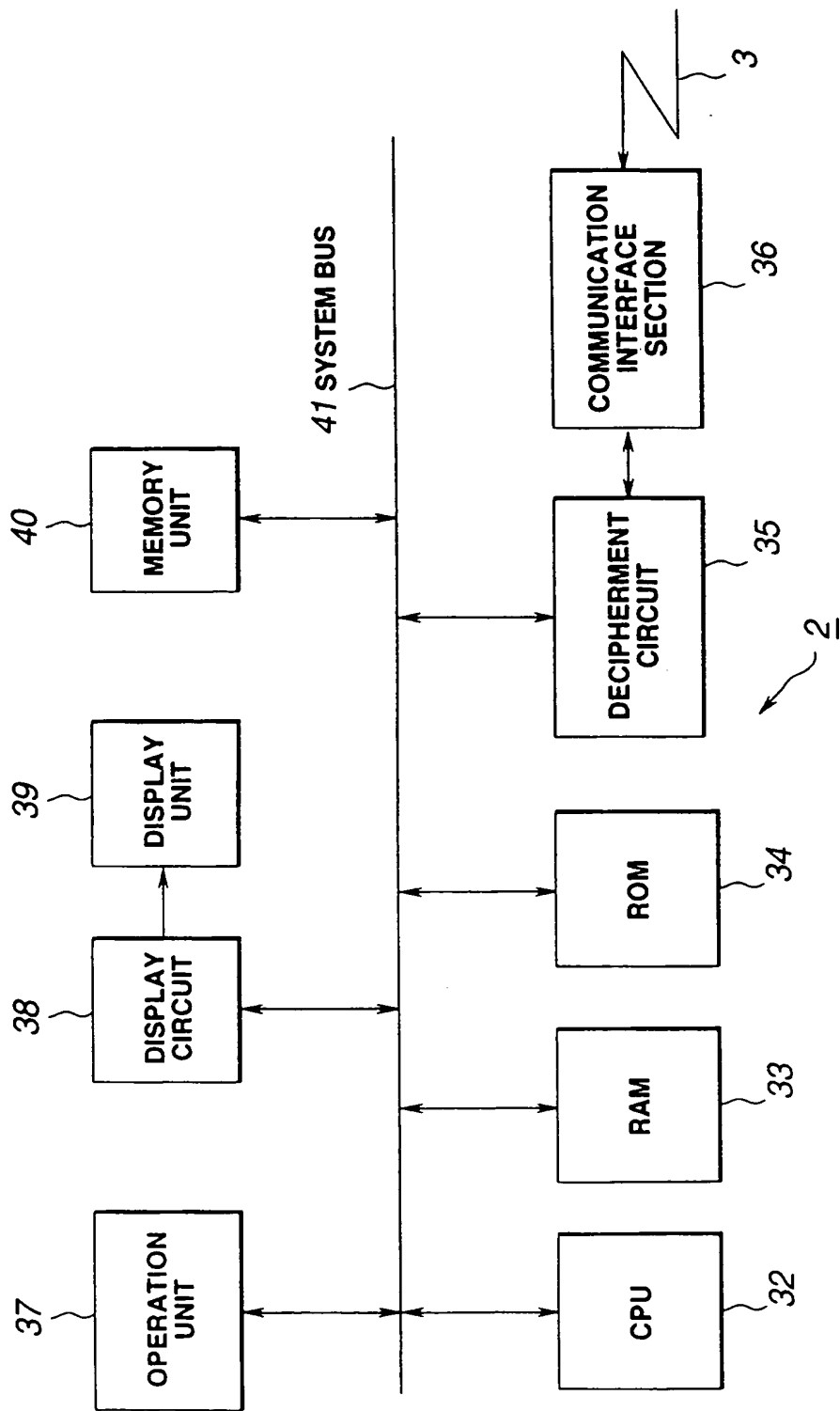
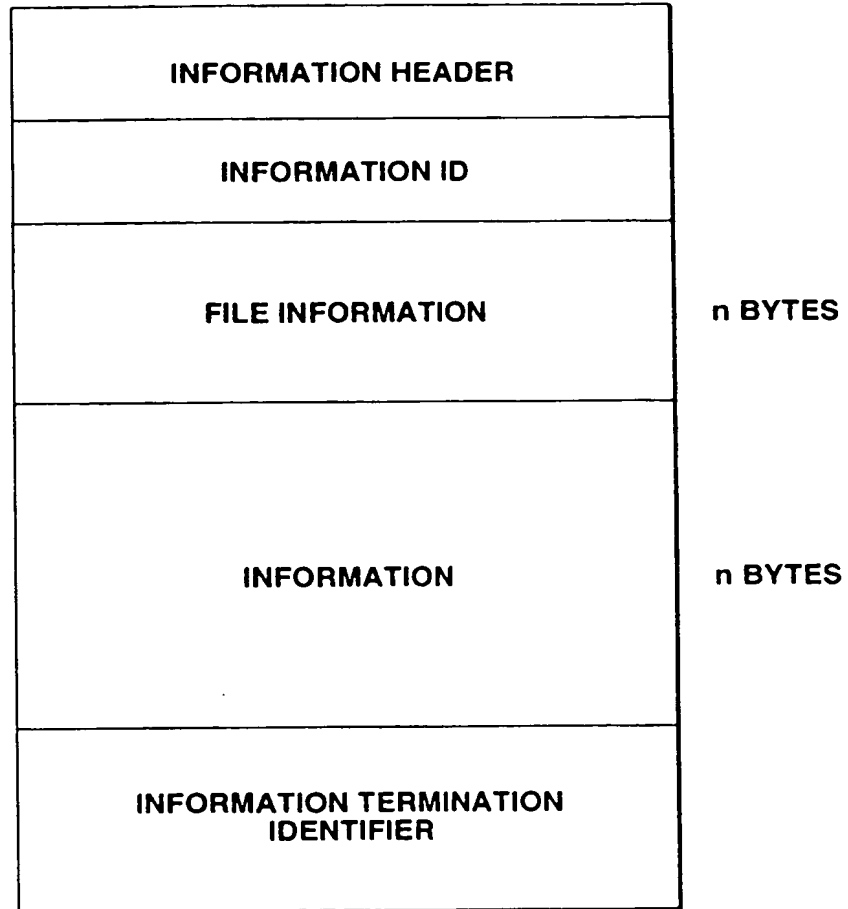


FIG. 3



**FIG. 4**

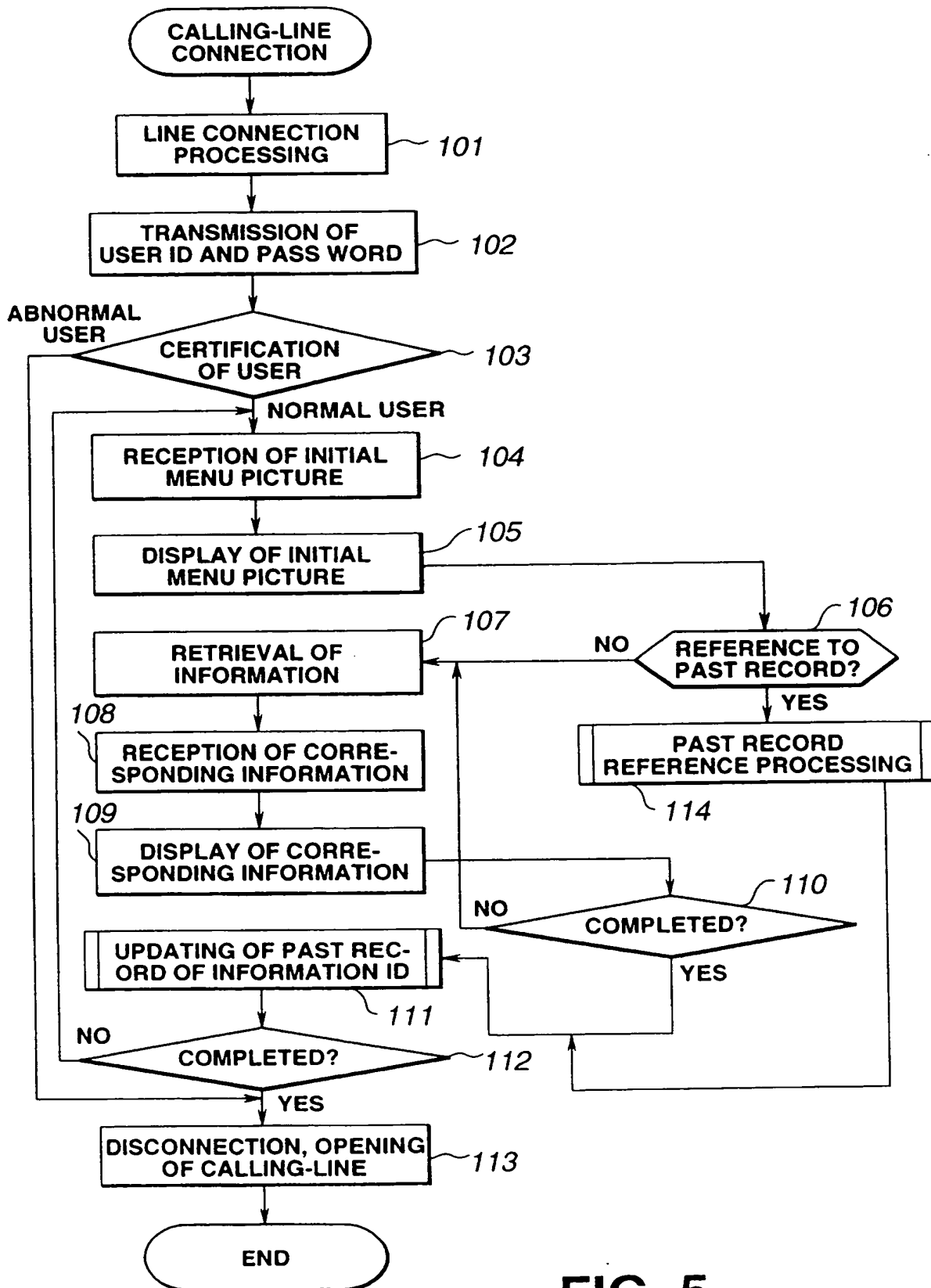
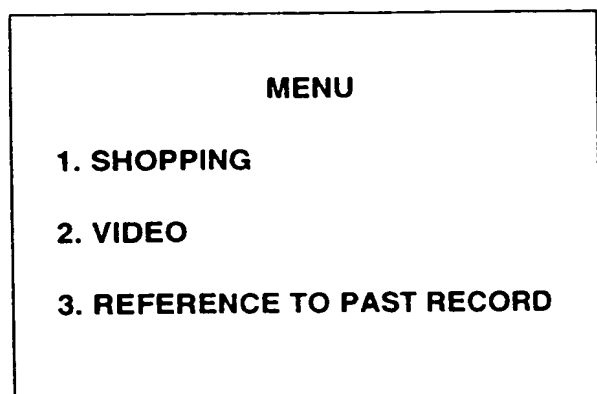
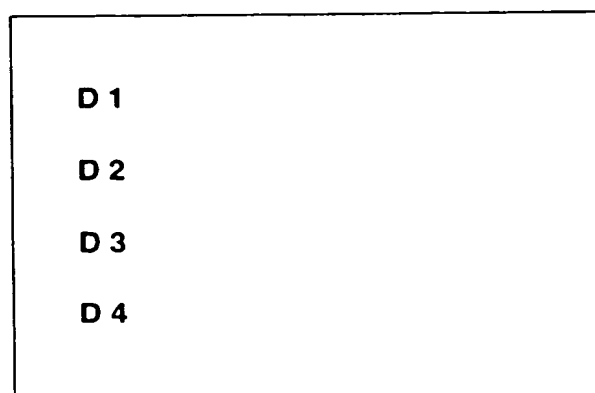


FIG. 5



**FIG. 6**



**FIG. 8**

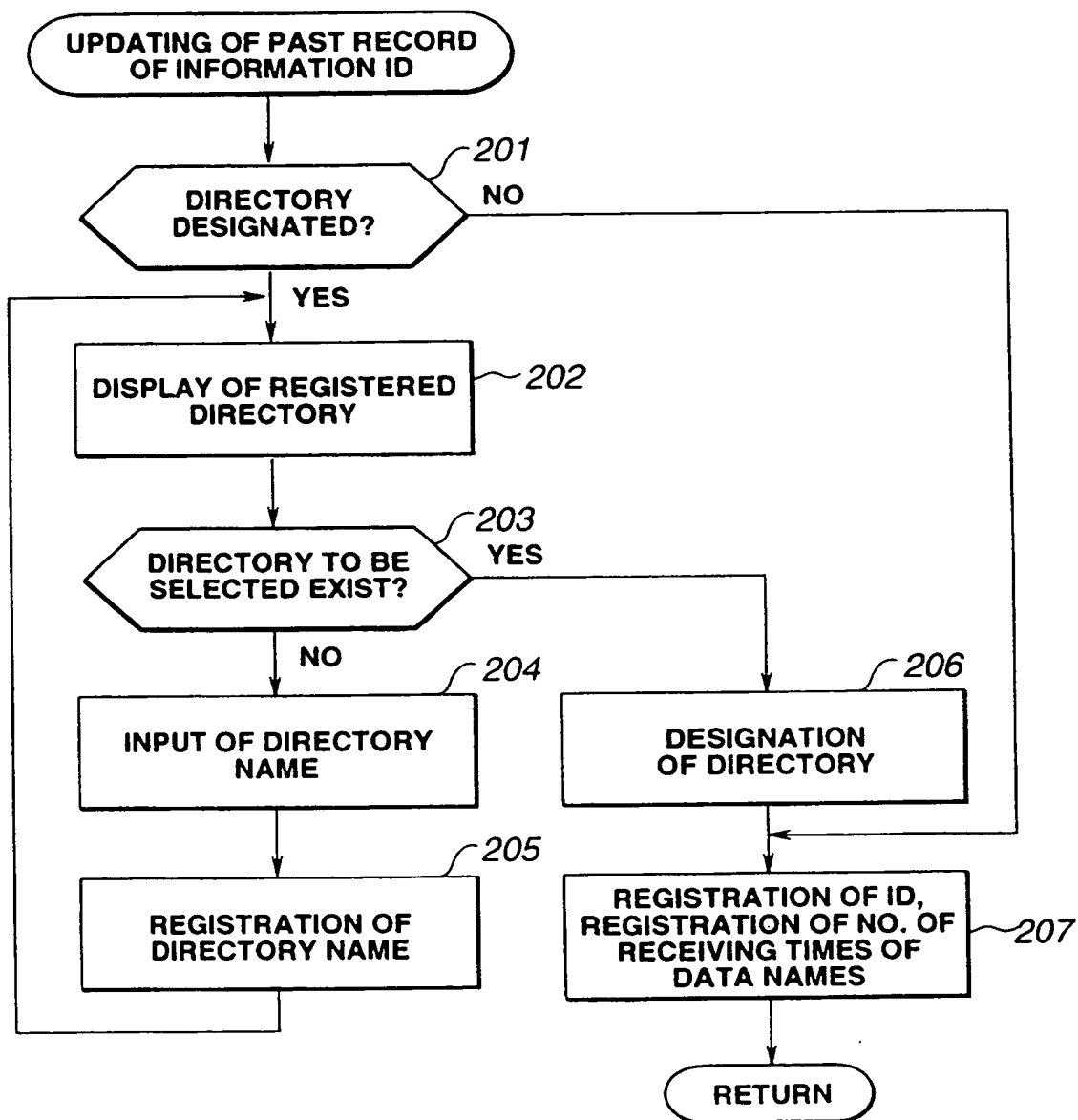


FIG. 7

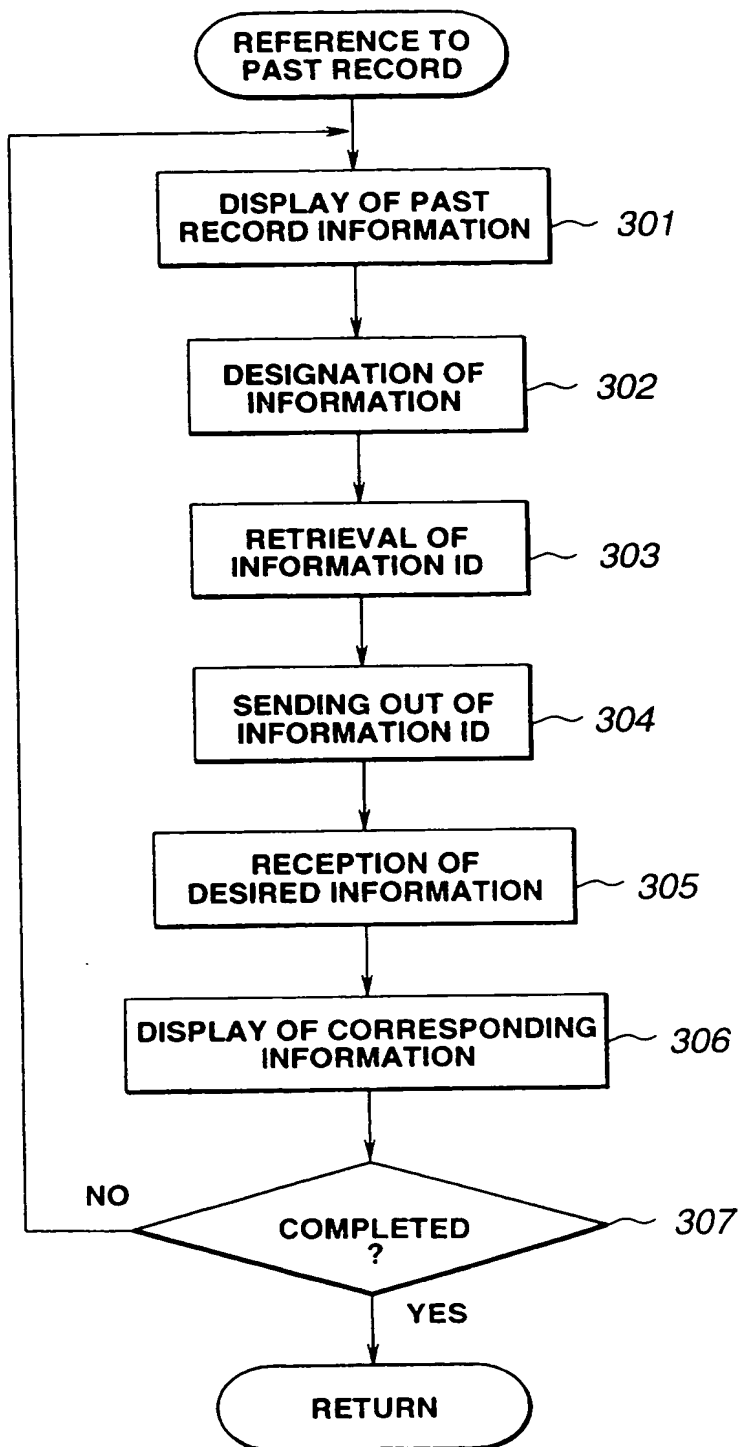
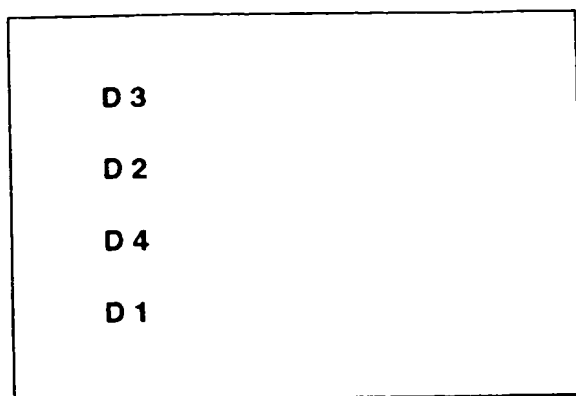
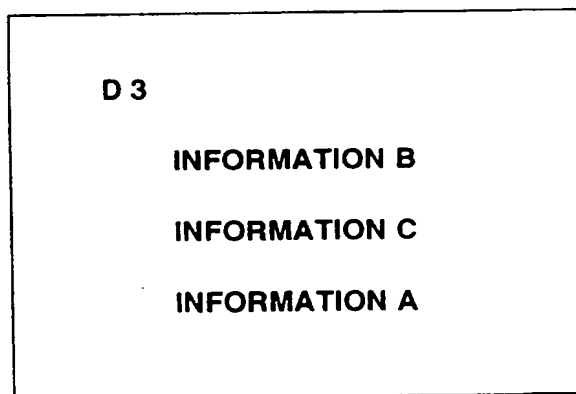


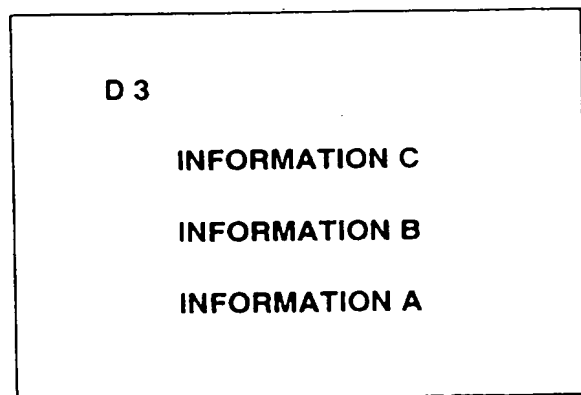
FIG. 9



**FIG. 10**



**FIG. 11**



**FIG. 12**

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP95/01.372

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>		
Int. Cl <sup>6</sup> G06F17/30		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b>		
Minimum documentation searched (classification system followed by classification symbols)		
Int. Cl <sup>6</sup> G06F17/30		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Jitsuyo Shinan Koho 1926 - 1995		
Kokai Jitsuyo Shinan Koho 1971 - 1995		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP, 4-238572, A (Nippon Telegraph & Telephone Corp.).	1, 8
Y	August 26, 1992 (26. 08. 92) (Family: none)	2-7, 9-14
Y	JP, 3-119850, A (Meidensha Corp.), May 22, 1991 (22. 05. 91) (Family: none)	2-7, 9-14
Y	JP, 3-22084, A (Nippon Telegraph & Telephone Corp.), January 30, 1991 (30. 01. 91) (Family: none)	2-7, 9-14
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
Date of the actual completion of the international search September 20, 1995 (20. 09. 95)		Date of mailing of the international search report October 9, 1995 (09. 10. 95)
Name and mailing address of the ISA/ Japanese Patent Office Facsimile No.		Authorized officer  Telephone No.

Form PCT/ISA/210 (second sheet) (July 1992)